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Mikhail Laksin

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EXAMINER

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Please find below and/or attached an Office communication concerning this application or proceeding.

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/586,098
Filing Date: March 20, 2007
Appellant(s): LAKSIN ET AL.

Edward A. Meilman
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 2/9/2011 appealing from the Office action mailed 12/6/2010.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:
1-20.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

2003/0083396	Ylitalo et al.	5-2003
6,398,861	Knox	6-2002
2004/0150702	Tsuyoshi et al.	8-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ylitalo et al. (# US 2003/0083396) in view of Knox (# US 6398861).

Ylitalo et al. discloses:

- A hybrid energy curable solvent based printing ink comprising: (i) polymerizable material ([0085]); (ii) an energy curable monomer, oligomer, or mixture thereof ([0090]-[0093]); (iii) a vehicle comprising solvent ([0079]-[0081]) and (iv) pigment ([0066]).
- The energy curable monomer, oligomer, or mixture thereof, is an ethylenically unsaturated monomer, oligomer, or mixture thereof ([0091]-[0093]), wherein the energy curable monomer, oligomer, or mixture thereof, is in an amount of about 1% to 50% by weight of the printing ink ([0093]).
- The vehicle comprises water, ethanol, n-propanol, iso-propanol, n-butanol, sec-butanol, tert-butanol, iso-butanol, n-pentanol, or ethyl acetate ([0081]).
- The ink further comprising a photoinitiator, wherein the photoinitiator is in an amount between about 0.1% and about 20% (5 to 15%) by weight of the printing ink ([0094]-[0099]).

- The photoinitiator is selected from the group consisting of benzophenone ([0095]).
- A method of printing comprising: (i) printing a substrate with the printing ink (ii) drying the printed ink; and (iii) exposing the printed ink to an actinic radiation, wherein actinic radiation is IR light or electron beam ([0109]-[0113]).
- The steps (ii) and (iii) are performed sequentially or steps (ii) and (iii) are performed simultaneously ([0112]).

Ylitalo et al. differ from the claim of the present invention is that the ink comprising the solvent-soluble resin, which is selected from nitrocellulose, acrylate, methacrylate, polyester, polyamide, copolymer of styrene and maleic anhydride, polyurethane and epoxy. The solvent-soluble resin is in a range between about 0.1% to about 40% by weight of the printing ink.

Knox. teaches that to get printed image with good adhesion, ink composition comprises the solvent-soluble resin (binder) (column: 6, line: 45-65), wherein resin is selected from acrylate type resin, polyester and polyamide resin (column: 6, line: 45-67). They also teaches that the solvent-soluble resin is in a range between about 0.1% to about 40% by weight (3 to 45%) of the printing ink (column: 2, line: 25-30; column: 13, line: 25-35).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink composition of Ylitalo et al. by the aforementioned teaching of Knox et al. in order to have a printed image with good adhesion.

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2. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ylitalo et al. (# US 2003/0083396) in view of Tsuyoshi et al. (# US 2004/0150702).

Ylitalo et al. discloses:

- A hybrid energy curable solvent based printing ink comprising: (i) polymerizable material ([0085]); (ii) an energy curable monomer, oligomer, or mixture thereof ([0090]-[0093]); (iii) a vehicle comprising solvent ([0079]-[0081]) and (iv) pigment ([0066]).
- The energy curable monomer, oligomer, or mixture thereof, is an ethylenically unsaturated monomer, oligomer, or mixture thereof ([0091]-[0093]), wherein the energy curable monomer, oligomer, or mixture thereof, is in an amount of about 1% to 50% by weight of the printing ink ([0093]).
- The vehicle comprises water, ethanol, n-propanol, iso-propanol, n-butanol, sec-butanol, tert-butanol, iso-butanol, n-pentanol, or ethyl acetate ([0081]).
- The ink further comprising a photoinitiator, wherein the photoinitiator is in an amount between about 0.1% and about 20% (5 to 15%) by weight of the printing ink ([0094]-[0099]).
- The photoinitiator is selected from the group consisting of benzophenone ([0095]).
- A method of printing comprising: (i) printing a substrate with the printing ink (ii) drying the printed ink; and (iii) exposing the printed ink to an actinic radiation, wherein actinic radiation is IR light or electron beam ([0109]-[0113]).

- The steps (ii) and (iii) are performed sequentially or steps (ii) and (iii) are performed simultaneously ([0112]).

Ylitalo et al. differ from the claim of the present invention is that the ink comprising the solvent-soluble resin, which is selected from nitrocellulose, acrylate, methacrylate, polyester, polyamide, copolymer of styrene and maleic anhydride, polyurethane and epoxy. The solvent-soluble resin is in a range between about 0.1% to about 40% by weight of the printing ink.

Tsuyoshi et al. teaches that to get printed image with good adhesion, ink composition comprises the solvent-soluble resin (see Abstract; [0039]), wherein resin is selected from acrylate type resin, polyurethane resin and polyamide resin ([0039]; see Examples).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink composition of Ylitalo et al. by the aforementioned teaching of Tsuyoshi et al. in order to have a printed image with good adhesion.

It would have been obvious to one having ordinary skill in the art at the time of invention was made to incorporate the solvent-soluble resin is in a range between about 0.1% to about 40% by weight of the printing ink, since it has been held that it is not inventive to discovering and optimum value or workable ranges by routine experimentation. *In re Aller*, 105 USPQ 233 (CCPA1955).

(10) Response to Argument

(10)A The Rejection over Ylitalo In View of Knox

Appellant maintains that Ylitalo discloses in [0080] that radiation curable ink composition is solvent free. Yet they admit that “one of the Ylitalo optional components is the category of solvents, which may be aqueous or organic, and when present, are chosen to provide desired physical properties, such as viscosity and the like [0080]. But paragraph [0080] also states ‘for radiation curable ink, the solvent component is desirably absent. However, a small amount may be desirable under certain circumstances.’ The word ‘certain’ has been underlined in the quotation because it indicates the solvent may be desirable only under some circumstances, but Ylitalo never reveals what those circumstances constitute”.

The Examiner respectfully disagrees. At the end of paragraph [0080] Ylitalo clearly teaches that “a small amount may be desirable under certain circumstances, in that case the amount of **solvent** is preferably not more than 20 percent”. Appellant argued that the word “certain” is significant since it indicates the solvent may be desirable only under some circumstance, but Ylitalo never reveals what those circumstances constitute. However, the reference doesn’t have to reveal what those circumstances are; disclosing in the specification at one time is sufficient evidence. Examples 51-52 of Ylitalo clearly discloses the “Aqueous Ink jet Inks” and Examples 53-54 clearly disclose “Solvent based ink jet inks.” Therefore, Ylitalo discloses the solvent based ink jet ink.

Appellant maintains that “there is nothing in Ylitalo to suggest that its composition needs improvement or is deficient or lacks some feature. The only apparent reason to look beyond Ylitalo is a need to find a missing element in the template of the appealed claims, but “[i]t is impermissible to use the claimed invention as an instruction manual or “template” to piece together the teachings of the prior art so that the claimed invention is rendered obvious. *In re Fritch*,²³ USPQ2d 1780, 1784 (Fed. Cir. 1992).”

The Examiner respectfully disagrees. The Examiner's job is to look for the claimed invention. In this particular application, the appellant claims ink comprising elements (i), (ii), (iii) and (iv). The primary reference discloses elements (ii), (iii) and (iv). It does not preclude the addition of another element, nor does it teach that adding an extra element would give a bad result or any disadvantages. So it would have been obvious to find the missing element and combine it with the primary reference to achieve a better result.

Appellant maintains that “The Final Rejection does propose justifications for consulting a secondary references, they lack a factual basis, at best, are retrospective conclusions that an unstated advantage would be realized, and they fail to address or provide an answer to the question of why would one incorporate a solvent-soluble resin in the radiation curable composition which

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Ylitalo in the first instance, particularly since it teaches the composition should preferably not contain a solvent."

The Examiner respectfully disagrees. The advantages are clearly stated. It is clearly stated in column: 6, lines 45-67 of Knox, that the organic binder media include those organic materials habitually employed as binders in inks. It is further stated in Knox that the binder can be solvent soluble resin (column: 6, lines 54-55). Knox clearly teaches that using the solvent soluble resin in an ink improves the application property (column: 6, line: 65-67). Therefore it would have been obvious to combine the secondary reference with the primary reference.

Appellant maintains that "given that Ylitalo teaches that both the energy-curable material and solvent are optional, and therefore may or may not be present, there must be a reason to first choose to include both the energy-curable material and solvent simultaneously, and having done so, to also extract some teaching from a secondary reference and modify Ylitalo using that teaching."

The Examiner respectfully disagrees. The primary reference Ylitalo clearly teaches in [0064] that the ink comprises energy curable material and solvent simultaneously. The secondary reference clearly teaches that using the solvent soluble resin in an ink improves the application property (column: 6, line: 65-67). Therefore it would have been obvious to combine the secondary reference with the primary reference.

Appellant maintains that there is not teaching in Knox that "to get printed image with good adhesion".

The Examiner respectfully disagrees. The Knox reference clearly discloses in column: 6, lines 45-67 that the organic binder media include those organic materials habitually employed as binders in inks. The binder can be solvent soluble resin. The meaning of "binder" is something used in binding, which improves the adhesion to the medium. Knox also clearly teaches that use of organic binder improves the application property (column: 6, line: 65-67). Therefore, combination of Ylitalo in view of Knox is proper.

(10)B The Rejection over Ylitalo In View of Tsuyoshi

For the Examiner's argument regarding the Ylitalo reference, please see above.

Appellant maintains that there is not teaching in Tsuyoshi "to get printed image with good adhesion".

The Examiner respectfully disagrees. Tsuyoshi clearly teaches that pigment ink composition comprises binder (which means that something is used in binding) ([0038]-[0039]). Therefore, a pigment based ink composition with binder material has good binding characteristics to the medium, which improves the storage stability of the printed image. Therefore, combination of Ylitalo in view of Tsuyoshi is proper.

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(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Manish S. Shah/
Primary Examiner, AU 2853
4/14/2011

Conferees:
/Stephen D Meier/
Supervisory Patent Examiner, Art Unit 2853

/David S Martin/
Examiner, OPQA